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in 1849." The telescope of the first, 45 inches focus, was mounted on a portable equatoreal stand, and originally belonged to the Cape Observatory. The Astronomer Royal supplied Mr. Maclear with an old polar axis (we believe by Sisson) which was not wanted at Greenwich, and this was prepared for the 45-inch telescope by Mr. Simms. Mr. Maclear received this polar axis in 1846, and, on his return from the survey in the autumn of 1847, mounted it in a suitable building. Up to this time the observatory had no equatoreal except this 45-inch telescope and stand.

In 1849 Mr. Maclear received another equatoreal more worthy of his observatory and its director. This beautiful instrument resembles very nearly that of Mr. Dawes, and indeed most of those which have proceeded from the same artist, Merz of Munich. The object-glass is 6·9 inches aperture, and 8½-feet focal length, and supports the reputation of the school of Fraunhofer.

"A new and more accurate Reduction of the Observation of the Comet of 1843" follows. A former reduction had proved faulty from the inaccurate identification of some of the stars of comparison, *when there was no equatoreal.*

"The Opposition of *Mars* in 1849-50," for the purpose of determining the parallax of the planet and of the sun, forms the fourth memoir. These have been very partially printed in the *Monthly Notices*, vol. x. p. 156, *i. e.* so far as for determining the places of *Mars*, his parallax being *assumed* to be known.

Lastly, we have two portions of a series of "Comparisons with the Heavens of the Southern Stars in the British Association Catalogue." This work was first attempted with *both* instruments, but for reasons which are obvious, Mr. Maclear has now resolved to confine himself to the mural circle alone. The transits by this instrument are *nearly* good enough for the purpose, and can always be made so by a few independent right ascensions of well-selected stars determined subsequently by the transit.

Extract of a Letter from Lieut. Gilliss, U.S.N., to Capt. Smyth, Santiago de Chile, July 28, 1850.

"Can you send me the numbers of the *Monthly Notices* through Mr. Abbot Lawrence, who I am sure will cheerfully forward them through the U. S. State department?

"Our catalogue of southern stars was not commenced until February last, between which time and the 1st of May the observations were almost uninterrupted by cloudy nights. May, June, and July, have afforded me only thirty working nights; an amount of obscure weather heretofore unknown at Santiago during the same periods: but as the winter is regarded as over, it may reasonably be expected we shall not have more than twenty unfavourable nights in the ensuing eight months.

"The field embraced by the five horizontal wires of the circle is 17′, and as they are moveable by a micrometer screw, the belt

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or zone swept each night is 24′ wide by 4^h long; more than an hour before and after each zone being given to examination of *all* the instrumental adjustments, necessary in a land where we have sometimes (as this present) monthly no less than five earthquakes; moreover, such course makes each zone independent.

"So far, we have been most struck by the discordancies between our estimated magnitudes and those of Lacaille; discordancies reconcilable only on the supposition of a multitude of variable stars altogether disproportioned to the known number of those in the northern hemisphere of the heavens. Were these differences between us uniform, it would not surprise me, but there are stars in the *same* belt varying much from the brightness he assigned them; others, *not* observed by him, larger than many in the zone that he did; and others, again, which, if existing, are certainly not so large as the 12th magnitude. Below you have a list of corrections necessary to these catalogues of the British Association and Lacaille.

B.A.C. No.	2738 is	No. 3200 Lacaille.
— —	3342.	Unsuccessfully sought three times. Cannot be 12th mag.
— —	3482.	Unsuccessfully sought four times. Cannot be 12th mag. *Observed by two others!*
— —	3586.	Does not exist. Is probably 3599 which we find.
— —	4058.	Lacaille's declination *correct*.
— —	4661.	Unsuccessfully sought twice.
— —	4871.	Does not exist, if so bright as 12th mag.
Lacaille No.	3489.	Brisbane's declin. right. Lacaille in error −7′.
— —	3682.	Declination in error + 5′.
— —	4811.	Declination wrong. Brisbane right.
— —	5105.	Does not exist, if of 9th mag.
— —	5473. 5477.	One of these does not exist. I cannot tell which, without knowing whether the reduction is correct.
— —	6019.	Does not exist, unless its R.A. is here 7^m too great.
— —	6028.	The computer was *wrong* in subtracting 10^m from the R.A.

"We have reason to think that the companion to α *Scorpii*, which our circle telescope shows very well under ordinary illumination, is also variable, as well as many of the minute stars about η *Argûs*; else I can scarcely conceive that our 52 lines' object-glass would so readily show the two *very minute* ones spoken of by Sir John Herschel in § (81), page 37, of his observations at the Cape, when his 20-feet failed to rescue them from obliteration in the light of the large star. η *Argûs* was undoubtedly brighter than the two stars of α *Centauri* at the date of our measures in March,* but is on the wane, and is now very little superior to them. There has evidently been a rapid change in the position of α^1 and α^2 *Centauri*, if the places given in the British Association Catalogue are nearly correct. We have 18 (116 wires) differences of right ascension, and 15 differences of declination measured with the micrometer screw at transit over the meridian; from which it results, that α^1 precedes α^2 by $0^s{\cdot}922$, and is south of it $3''{\cdot}66$. The mean epoch is June 1. An entire revolution of the micrometer-head, which is above an inch in diameter, is $27''{\cdot}9$, and the power

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under which the measures have been made is 98, which is used for all observations.

"The latitude of Santiago will not vary greatly from 33° 26′ 22″ S., nor its longitude from 4h 44m 19s W.; very different, you will perceive, from the geographical position heretofore assigned. The longitude is the result from three occultations and five culminations of the moon, on the assumption that the tabulated places of the moon and stars are correct."

Note from Mr. Warren De la Rue.

"I have been in the habit, for some time past, of making drawings of the double stars on small black discs, which are cut out from paper which has been previously gummed at the back, and found them so convenient that I sent several to my friends Mr. Lassell and Mr. James Nasmyth. Those gentlemen were pleased with them; and the latter begged me to bring them before the notice of your Society, thinking that observers would be glad of the suggestion. In illustration of their use, I have sent my copy of Smyth's 'Bedford Catalogue,' which contains drawings of several double and multiple stars, as seen with my 13-inch equatoreal reflector of 10-feet focal length."*

On the Longitude of the Observatory of Stonyhurst College.

By the Rev. A. Weld.

In determining the difference of longitude between the observatories of Liverpool and Stonyhurst, Mr. Weld received, as might be expected, every assistance from Mr. Hartnup.

The chronometers employed were Nos. 222, 258, and 263, all made by Mr. Shepherd, of Liverpool, with the balance invented by Mr. Hartnup.

They were rated by the Liverpool transit clock (using coincident beats for the comparison) on Oct. 23, 24, and 25. On the 25th, Mr. Weld transported them to Stonyhurst, where they were compared with the sidereal clock at 9 P.M.; and at midnight, several transits being observed in the interval.

On the morning of the 26th, Mr. Weld again compared the chronometers with the Stonyhurst transit clock; set off for Liverpool at 7h 40m A.M.; compared with the Liverpool clock on his arrival, at 10h 30m; observed several transits, compared a second time; then started at 4h 30m P.M. for Stonyhurst, where the chronometers were compared with the transit clock on the same evening, and some transits observed.

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* The stars and nebulæ are very neatly represented by white on the black ground, and the illustrations, when finished, are readily appended to the text, in print or manuscript.